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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000321

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H01M 4/86, H01M 8/18, H01M 8/08, H01M 4/88, C01B 3/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6258482 B1 (MASUTAKA OUCHI ET AL), 10 July 2001 (10.07.2001), claim 1, abstract ---	1-37
A	US 6620539 B2 (STANFORD R. OVSHINSKY ET AL), 16 Sept 2003 (16.09.2003), claims 21-35, abstract ---	1-37
A	US 20020064709 A1 (STANFORD R. OVSHINSKY ET AL), 30 May 2002 (30.05.2002), page 4, line 7 - line 39, figure 2, abstract ---	1-37

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"Z" document member of the same patent family

Date of the actual completion of the international search

21 January 2005

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000321

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 009, no. 204, 21 August 1985 (1985-08-21) & JP 60 070665 A (MATSUSHITA DENKI SANGYO KK), 22 April 1985 (1985-04-22) abstracts</p> <p style="text-align: center;">--</p>	1-37
A	<p>PATENT ABSTRACTS OF JAPAN vol. 017, no. 668, 9 December 1993 (1993-12-09) & JP 52 25975 A (FURUKAWA BATTERY CO LTD), 3 September 1993 (1993-09-03) abstract</p> <p style="text-align: center;">-----</p>	1-37

INTERNATIONAL SEARCH REPORT
Information on patent family members

31/12/2004

International application No.

PCT/NO 2004/000321

US	6258482	B1	10/07/2001	EP	0961332	A	01/12/1999
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US	6620539	B2	16/09/2003	CA	2438261	A	12/09/2002
				EP	1364421	A	26/11/2003
				JP	2004523072	T	29/07/2004
				MX	PA03007829	A	08/12/2003
				TW	563269	B	00/00/0000
				US	6703156	B	09/03/2004
				US	6777125	B	17/08/2004
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				US	6790551	B	14/09/2004
				US	20010033959	A	25/10/2001
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				US	20020064709	A	30/05/2002
				US	20030207175	A	06/11/2003
				WO	0169701	A	20/09/2001
US	20020064709	A1	30/05/2002	US	6613471	B	02/09/2003
				US	20030207175	A	06/11/2003
				WO	03038926	A	08/05/2003
				AU	4737701	A	24/09/2001
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				CA	2403213	A	20/09/2001
				CN	1429415	T	09/07/2003
				EP	1266415	A	18/12/2002
				JP	2003526890	T	09/09/2003
				MX	PA02009033	A	12/02/2003
				TW	531920	B	00/00/0000
				US	6447942	B	10/09/2002
				US	6492056	B	10/12/2002
				US	6620539	B	16/09/2003
				US	20010033959	A	25/10/2001
				WO	0169701	A	20/09/2001

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-225975

(43)Date of publication of application : 03.09.1993

(51)Int.Cl.

H01M 4/38

B22F 1/00

C23G 1/10

H01M 4/24

(21)Application number : 04-075114 (71)Applicant : FURUKAWA BATTERY CO LTD:THE

(22)Date of filing : 13.02.1992 (72)Inventor : FURUKAWA ATSUSHI

(54) HYDROGEN STORAGE ALLOY ELECTRODE

(57)Abstract:

PURPOSE: To improve initial discharge capacity, and reduce charging and discharging cycles necessary for initial activation to improve productivity by using hydrogen storage alloy particles after treatment and removal of an oxide film with hydrochloric acid.

CONSTITUTION: Each powder of Misch metal, nickel, cobalt and aluminum is so measured and mixed as to obtain the predetermined composition ratio, dissolved under heating by an arc melting method, and cooled, thereby forming a hydrogen storage alloy ingot. Thereafter, the ingot is pulverized to form hydrogen storage alloy powder comprising grains of 250-mesh size or less. Then, the alloy powder is immersed in hydrochloric acid having the predetermined concentration, a trace of oxide films generated on the surface of the alloy, for example, films of lanthanum oxide, lanthanum hydroxide, or the like is removed and, then, the alloy is subjected to a washing and drying process. A hydrogen storage alloy electrode comprising the hydrogen storage alloy particles after treatment and removal of the oxide film with hydrochloric acid is improved in initial discharge capacity at the time of manufacturing an H-M battery, and the number of charging and discharging cycles necessary for initial activation can be reduced, thereby enabling productivity to be improved.

LEGAL STATUS

[Date of request for examination] 18.09.1998

[Date of sending the examiner's decision of rejection] 14.08.2001

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 60-070665

(43)Date of publication of application : 22.04.1985

(51)Int.Cl.

H01M 4/38

(21)Application number : 58-178501 (71)Applicant : MATSUSHITA ELECTRIC
IND CO LTD

(22)Date of filing : 27.09.1983 (72)Inventor : KAWANO HIROSHI
IKOMA MUNEHISA
YANAGIHARA NOBUYUKI

(54) ELECTRODE WHICH CAN ABSORB HYDROGEN

(57)Abstract:

PURPOSE: To increase the life of an electrode for an alkaline storage battery by using as an alloy powder which can absorb and discharge hydrogen and which has specified grain diameters.

CONSTITUTION: An alloy consisting of a Ti-Ni alloy or the like composed of Ti and Ni in an atomic ratio of 2:1 and has the property of electrochemically absorbing and discharging hydrogen is prepared by fusion. The thus prepared alloy is crushed into a powder with grain diameters of 25µm or below. The thus prepared alloy powder is mixed with ethyl alcohol to make a muddy mixture which is then packed into a foamy porous nickel body or the like. The thus obtained body is then dried and pressed before being sintered, thereby making an electrode which can absorb hydrogen. By using this electrode, it is possible to constitute a non-polluting alkaline storage battery of a high energy density.

LEGAL STATUS

[Date of request for examination]

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